

## A DIPTEROUS PARASITE OF GLOSSINA MORSITANS.

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The Imperial Bureau of Entomology has recently received from Mr. Ll. Lloyd, Entomologist to the British South Africa Company in Northern Rhodesia, a small Bombyliid fly accompanied by the following letter, dated "Mwengwa, Mumbwa, *viâ* Broken Hill, N. Rhodesia, November 1, 1913.—I am sending you herewith a specimen of a Dipteron, which I believe to be a parasite of *G. morsitans*. During July and August of this year I collected about 700 pupae of this Tsetse in nature at Ngoa, in the Mpika Division of Northern Rhodesia. These were kept under observation until September 15th, when I was compelled to travel through fly-free country for a month; they were accordingly closed up in a fly-proof case to avoid escape (in case of possible fracture of one or more of the bottles containing the pupae), and were not examined again until October 18th. On this date one of the bottles, which had contained five Tsetse pupae collected on July 21st, was found to contain:—

"(1) Two pupae from which the flies had not emerged.

"(2) Two empty puparia, with the old Tsetse pupal skin showing inside in the normal manner, and with the head cap normally split.

"(3) Two dead Tsetse.

"(4) Another Dipteron, very dry and broken.

"(5) The pupal case from which this fly had undoubtedly emerged.\*

"(6) The fifth Tsetse puparium, the head cap of which had been roughly split; this puparium contained no trace of the old pupal skin.

"The pupae had been carried in a strong beaker, the mouth of which was closed with three layers of mosquito muslin, so that it would have been almost impossible for the larva of the insect to find its way into the tube. The pupa also seems to be adapted to breaking through hard cases by means of the short spines on the head. There appears therefore to be no doubt that the pupa of the Tsetse was parasitised at the time of collection, and that the parasitic pupa emerged from it between September 15th and October 18th."

Although, as indicated by Mr. Lloyd in his letter, the parasite thus unexpectedly obtained is somewhat damaged, it is fortunately not so much injured as to prevent

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\*This is of the normal *Exoprosopine* type, having on the antero-inferior part of the head-capsule a group of four tubercles, or teeth, of chitin, with black, strongly chitinised cutting-edges, and a little further back a pair of similar but smaller teeth on the proboscis-sheath. The dimensions of the pupa case are: length 6 mm., greatest breadth 2.6 mm.—E.E.A.

its being described and figured. The insect proves to belong to a new species, which may be characterised as follows :—

FAMILY BOMBYLIIDAE.

SUBFAMILY EXOPROSOPINAE.

Genus *VILLA*, Lioy.

*Villa lloydi* sp. nov. (fig. 1.).

♂.—Length (one specimen) 5·75 mm. ; width of head 2·2 mm. ; width of front at vertex 0·25 mm. ; length of wing 5·25 mm.

*Black ; dorsum of abdomen marked, as shown in fig. 1, with alternating transverse bands of pale (buff-coloured) and dark (black), narrow, elongate scales, third segment also with a narrow band of white scales, tapering towards middle line where it appears to be more or less widely interrupted ; wings entirely hyaline, discal and third posterior cells shaped as shown in fig. 1 ; legs black.*

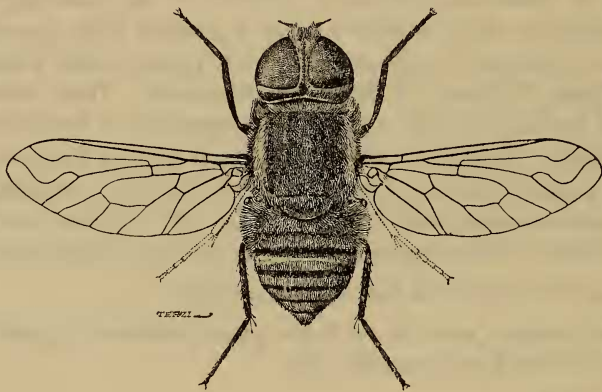


Fig. 1—*Villa lloydi*, Austen, ♂, × 9.

*Head* black ; front clothed with buff-coloured scales, mixed on lower two-thirds with fine, erect, blackish hair ; face convex and somewhat prominent, but not conical, clothed with buff-coloured scales and short black hair ; occiput clothed above and on upper portion of sides with yellowish white or whitish scales, clothed below with blackish hair ; *antennae* black, first and second joints clothed with stiff black hair, longer on first than on second joint, third joint bulb-shaped, tapering quickly just beyond middle. *Thorax* : dorsum, except front margin and lateral borders, clothed with appressed hairs and narrow scales, which are raw-sienna-coloured in front and become pale (cream-buff) on hinder part of main portion and on scutellum ; fringe of erect hair on front margin of dorsum yellowish, lateral borders of dorsum, from humeral to postalar calli, clothed with appressed bright yellowish-white hair ; postalar calli each with a row of (apparently about four) long, cream-buff bristles ; hind margin of scutellum bearing a series of black bristles, set at wide intervals ; pectus and pleurae clothed with black or blackish hair, mesopleurae with a tuft of yellowish hair on upper border. *Abdomen* : lateral extremities of tergites of first and second segments thickly clothed with erect whitish hair ;

tergites of fourth, fifth, and sixth segments, or at least of fourth and sixth, with a more or less distinct patch of white scales at each lateral extremity, tergite of seventh segment with a band (less deep on each side than in middle) of glistening whitish scales at base; tergites of third to sixth segments inclusive with some fine black hairs at each lateral extremity; clothing of venter, with exception of last segment and of some yellowish hairs near base, uniformly black. *Halteres* buff-coloured (knobs cream-buff at tips). *Legs*: front tibiae smooth (middle legs wanting in case of type), bristles on posterior femora and tibiae black.

NORTHERN RHODESIA: type from Ngoa, Mpika Division, between Sept. 15th and Oct. 18th, 1913, bred from puparium of *Glossina morsitans*, Westw. (*Ll. Lloyd*: presented to the British Museum by the Imperial Bureau of Entomology).

So far as the author is aware, *Villa lloydi* is the first Dipteron to be recorded as parasitic on any tsetse-fly, and Mr. Lloyd, in whose honour the new species is named, is heartily to be congratulated on a most interesting discovery.

In conclusion, it is perhaps advisable to add a few words as to the systematic position of the species described above. Owing to the shape of the discal and third posterior cells in the wing (*see fig. 1*), the venation in this species is not that of a typical member of the genus *Villa*, Lioy. As regards the details mentioned, *V. lloydi* resembles certain Ethiopian species assigned by Bezzi to the subgenus *Thyridanthrax*, O. Sack., though the species referred to are themselves aberrant in these respects, as also in their wings being entirely or almost entirely hyaline. *Villa lloydi*, however, cannot be included in *Thyridanthrax*, since the face instead of being conical is merely bluntly convex. Although it may ultimately prove necessary to institute a new subgenus for the reception of this species, such a step must in any case be postponed until further material is received.

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